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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,841	04/15/2004	Arjang Fartash	200312702-1	9435

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EXAMINER
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LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/825,841

Applicant(s)

FARTASH, ARJANG

Examiner

Michael La Villa

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 55 and 56 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5, 7, 8, 13, 17-21, 24, 26, 29, 34, 37, 39-48, 50-53 is/are allowed.
- 6) ☒ Claim(s) 2-4, 6, 9-12, 14-16, 22, 23, 25, 27, 28, 30-33, 35, 36, 38, 49 and 54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 55 and 56 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
2. Inventions of Claims 1-54 and of Claims 55 and 56 are directed to related products and methods. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the claimed products of Claims 55 and 56 do not overlap in scope as claimed and are not obvious variants of the Claims 1-54. The presence of means for heating a fluid and electrical isolation are apparently absent in Claims 1-54. The mode of operation of the inventions of Claims 55 and 56 appears to be different from those of Claims 1-54 as the articles are capable of performing differently.
3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 55 and 56 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 2-4, 6, 9-12, 14-16, 22, 23, 25, 27, 28, 30-33, 35, 36, 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Claims 2-4, 6, 9-12, 14-16, 22, 23, 25, 27, 28, 30-33, 35, 36, 38, and any other claims in which the phrase appears, if any, it is unclear what is meant by the phrase "further comprises." It is unclear whether the word "further" is superfluous. If not, it is unclear how the word "further" further limits the scope of claim coverage. In traversing this rejection, applicant has referred to Landis, which was not available for review. Applicant's arguments in this regard therefore cannot be evaluated. Applicant also referred to Sheldon, a review of which does not appear to advance applicant's argument.
8. Regarding Claim 31, it is unclear whether the claimed "pre-cleaning" is an additional sputtering step, separate from the "cleaning" of Claim 29. If this is not an additional step, it is unclear what is being signified by the "pre" prefix.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
10. A person shall be entitled to a patent unless –

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11. (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
12. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
13. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 49 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by

Colgan et al. USPN 5,221,449 for the reasons of record in the Office Action mailed on 7 October 2005. The underlayer and/or substrate, having a resistance, serves as a means for generating lateral temperature gradient.

15. Claims 49 and 54 are rejected under 35 U.S.C. 102(a and e) as being anticipated

by Chen et al. USPA 2003/0124262 for the reasons of record in the Office Action mailed on 7 October 2005. The underlayer and/or substrate, having a resistance, serves as a means for generating lateral temperature gradient.

16. Claims 49 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by

Koyama et al. USPN 4,364,099 for the reasons of record in the Office Action mailed on 7 October 2005. The underlayer and/or substrate, having a resistance, serves as a means for generating lateral temperature gradient.

#### ***Response to Amendment***

17. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejections of the Office Action mailed on 7 October 2005. Rejections are withdrawn, except as repeated above for the reasons given with respect to the phrase "further comprises."

18. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Colgan of the Office Action mailed on 7 October 2005. Applicant agrees that Colgan teaches a bcc Ta layer and non-bcc Ta layer that are contiguous, but argues that the Colgan does not teach the claimed layer having contiguous bcc Ta region and non-bcc Ta region. However, the bi-layer when turned on its edge is also the claimed layer having two claimed two regions. Rejection is maintained.

19. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Chen of the Office Action mailed on 7 October 2005. Applicant agrees that Chen teaches a bcc Ta layer and non-bcc Ta layer that are contiguous, but argues that the Chen does not teach the claimed layer having contiguous bcc Ta region and non-bcc Ta region. However, the bi-layer when turned on its edge is also the claimed layer having two claimed two regions. Rejection is maintained.

20. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Koyama of the Office Action mailed on 7 October 2005. Applicant may argue that the Koyama does not teach the claimed layer having contiguous bcc Ta region and non-bcc Ta region. However, the bi-layer when turned on its edge is also the claimed layer having two claimed two regions. Rejection is maintained.

***Allowable Subject Matter***

21. Claims 1, 5, 7, 8, 13, 17-21, 24, 26, 29, 34, 37, 39-48, and 50-53 are allowed.

***Conclusion***

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
23. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.
24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
17 April 2006



**MICHAEL E. LAVILLA PH.D.**  
**PRIMARY EXAMINER**